



STATE OF WASHINGTON  
**STATE BUILDING CODE COUNCIL**

May 2018  
Log No. \_\_\_\_\_

**1. State Building Code to be Amended:**

- |  |   |
|--|---|
| <input type="checkbox"/> International Building Code               | <input type="checkbox"/> International Mechanical Code        |
| <input type="checkbox"/> ICC ANSI A117.1 Accessibility Code        | <input type="checkbox"/> International Fuel Gas Code          |
| <input type="checkbox"/> International Existing Building Code      | <input type="checkbox"/> NFPA 54 National Fuel Gas Code       |
| <input checked="" type="checkbox"/> International Residential Code | <input type="checkbox"/> NFPA 58 Liquefied Petroleum Gas Code |
| <input type="checkbox"/> International Fire Code                   | <input type="checkbox"/> Wildland Urban Interface Code        |
| <input type="checkbox"/> Uniform Plumbing Code                     |   |

For the Washington State Energy Code, please see specialized [energy code forms](#)

**Section(s):** R101, R202, R301, R302, **R314, R320**  
(e.g.: Section: R403.2)

**Title:** Scope, Definitions, Design Criteria, Fire-resistant construction, **Smoke Alarms and Heat Detection, Accessibility**

(e.g: Footings for wood foundations)

**2. Proponent Name (Specific local government, organization or individual):**

**Proponent:** Sheri Newbold

**Title:** Residential Architect/ Owner @ live-work-play/ Co-Chair Housing Task Force at AIA Seattle

**Date:** **Revision: 06-03-2022** 02-17-2022

**Additional Proponents from AIA Seattle Housing Task Force:** Karen DeLucas, David Neiman, Matt Hutchins, Ace Houston, Carrie Anderson, Colbi Cannon. Tammie Sueirro, AIA Washington Council.

**3. Designated Contact Person:**

**Name:** Sheri Newbold

**Title:**

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**4. Proposed Code Amendment.** Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert new sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code, additional pages may be attached.

Clearly state if the proposal modifies an existing amendment or if a new amendment is needed. If the proposal modifies an **existing amendment**, show the modifications to the existing amendment by underlining all added language and striking through all deleted language. If a new amendment is needed, show the modifications to the **model code** by underlining all added language and striking through all deleted language.

Code(s) \_\_\_\_\_ Section(s) \_\_\_\_\_

Enforceable code language must be used.

Amend section to read as follows:

Amend Section “R101.2 Scope” by adding the following sentences at the end of the section after the word “height” and before the exception:

#### **R101.2 Scope**

The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above the grade plane in height with a separate means of egress and their accessory structures not more than three stories above the grade plane in height.

**This code is also applicable to multi-family homes with 3 to 6 dwelling units meeting the definition of a “plex structure” and subject to the scope limitations specified within this code. Existing buildings undergoing repair, alteration or additions, and change of occupancy shall be permitted to comply with the International Existing Building Code as locally amended.**

Add the following definition to Section R202 in the appropriate alphabetical location:

**PLEX STRUCTURE. A building with three (3) to six (6) attached dwelling units consolidated into a single structure with common walls. The building includes a functional street facing primary entrance. Dwelling units within the building may be situated either wholly or partially over or under other dwelling units. No accessory dwelling units allowed in this structure.**

Amend Section R301.2.2 Seismic provisions to read as follows:

**R301.2.2 Seismic provisions.** The seismic provisions of this code shall apply as follows:

1. Townhouses in Seismic Design Categories C, D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>.
2. Detached one- and two-family dwellings **and plex structure** in Seismic Design Categories D<sub>0</sub>, D<sub>1</sub>, and D<sub>2</sub>

**3. Plex structures in Seismic Design Categories C, D<sub>0</sub>, D<sub>1</sub>, and D<sub>2</sub> shall be designed with seismic provisions of the IBC.**

R302.3 and R302.3.1 shall be amended to delete the entire sections and replace with the following:

R302.3 Two-family dwellings and Plex structures.

R302.3.1 Two Family Dwellings. Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a lot line exists between the dwelling units or not. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of ½ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13D.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the dwellings and the structural framing 6 supporting the ceiling is protected by not less than ½-inch (12.7 mm) gypsum board or equivalent.

R302.3.2 Plex Structures Under 5000 Square Feet and 3 Stories or less in Height

R302.3.2.1 Dwelling units in Plex structures under 5,000 square feet in area and three (3) stories or less in height above the grade plane shall be separated from each other by wall and floor assemblies having not less than a 2-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a lot line exists between the dwelling units or not. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the backside of sheathing of the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing or rated floor/ceiling assembly. Common areas shall be separated from dwelling units by not less than 2-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code.

Exception:

1. A fire-resistance rating of 1-hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13D.
2. A fire-resistance rating of ½-hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13R.

R302.3.2.2 Up to four units above the grade plane floor may utilize a shared path of egress. Each dwelling unit will provide an exit access per R311.2 to the shared path of egress. Each sleeping room in each dwelling unit will provide an emergency escape and rescue opening per R310. The path of egress will be protected by by not less than 2-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code.

Plex Structures without automatic sprinkler systems shall:

have a maximum of two dwelling units per floor above the grade plane floor; provide a 42" minimum width shared path of egress with 42" clear at corridors and 42" between handrails at stairs and ramps and otherwise meet the requirements of R311; and provide two exit discharges to the public way or yard or court that opens to the public way.

Structures constructed with automatic sprinkler systems per this section shall: provide a 36" wide minimum shared path of egress with 36" minimum clear at corridors and 36" clear between handrails at stairs

and ramps, and otherwise meet the requirements of R311 and provide two exit discharges to the public way or yard or court that opens to the public way.

R302.3.3 Plex Structures 5000 Square Feet to a maximum of 8,000 sq. ft. and Up to Three Stories in Height

R302.3.3.1 Plex Structures 5,000 square feet to a maximum of 8,000 sq. ft. in area or greater and up to three (3) stories in height above the grade plane shall be equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13R.

R302.3.3.2 Dwelling units in plex structures shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a lot line exists between the dwelling units or not. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the backside of sheathing of the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing or rated floor/ceiling assembly. Common areas shall be separated from dwelling units by not less than 2-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code.

Exception: A fire-resistance rating of ½-hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.

R302.3.3.4 Dwelling units above the grade plane floor may utilize a shared path of egress. Each dwelling unit will provide an exit access per R311.2 to the shared path of egress. Each sleeping room in each dwelling unit will provide an emergency escape and rescue opening per R310. The path of egress will be protected by by not less than 2-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code.

The path of egress will be protected by by not less than 2-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263, or Section 703.2.2 of the International Building Code and shall be 36" minimum in width with 36" minimum clear at corridors and 36" clear between handrails at stairs and ramps, and otherwise meet the requirements of R311 with a minimum of two exit discharges to the public way or yard/ court that opens to the public way.

R302.3.3.6 Plex Structures greater than 8,000 sq. ft. shall be designed in accordance with the International Building Code.

R302.3.4 Supporting Construction. Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

R302.3.5 Separate mechanical, electrical and plumbing drawings shall not be required for plex structures

R314.4 shall be amended as follows.

R314.4 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Where an accessory dwelling unit is created within an existing dwelling unit all required smoke alarms, in the accessory dwelling unit and the primary dwelling unit, shall be interconnected in such a manner that the

actuation of one alarm will activate all alarms in both the primary [dwelling unit](#) and the accessory [dwelling unit](#). Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

**In Plex Structures, required alarm devices shall be interconnected in such as manner that the actuation of one alarm will activate all the alarms in all common areas and paths of egress in the structure and all alarms in all dwelling units in the structure.**

### R320.1 Scope

Where there are ~~four~~ **three** or more [dwelling units](#) or sleeping units in a single structure, the provisions of Chapter 11 of the [International Building Code](#) for Group R-3 shall apply.

#### R320.1.1 Guestrooms

A [dwelling](#) with [guestrooms](#) shall comply with the provisions of Chapter 11 of the [International Building Code](#) for Group R-3. For the purpose of applying the requirements of Chapter 11 of the [International Building Code](#), [guestrooms](#) shall be considered to be sleeping units.

Exception: [Owner](#)-occupied [lodging houses](#) with five or fewer [guestrooms](#) constructed in accordance with the International Residential Code are not required to be accessible.

- 5. Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.** Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

Currently the IRC applies to one and two family dwellings only, however small residential buildings with multiple units, so-called 'missing middle housing' (between detached houses and large multifamily buildings) are of roughly the same size with similar use but currently governed by the more restrictive and expensive IBC code.

Our state is experiencing a housing crisis driven by the scarcity of affordable new residential development. In many jurisdictions and statewide, efforts to allow missing middle housing are gaining traction because of numerous benefits, for affordability, climate change response, and more vital neighborhoods. Our goal would be to align the building code provisions with ongoing zoning code changes and federal financing rules (fourplexes can be financed with Fannie/Freddie residential loans rather than higher barrier commercial loans).

This effort has precedent. Memphis recently amended their IRC to include middle housing by focusing life safety efforts on additional fire separation requirements between units, and sprinklers. Please reference these resources for more information:

<https://www.shelbycountyttn.gov/DocumentCenter/View/39436/2021-IRC-Amendments-Final>  
<https://opticosdesign.com/blog/memphis-tn-amends-local-building-code-to-allow-up-to-six-units-under-residential-building-code-irc-to-enable-missing-middle-housing/>  
<https://www.strongtowns.org/journal/2022/1/26/a-trailblazing-reform-supports-small-scale-development-in-memphis>

The 2021 IRC, with these additional protections, would adequately protect life safety and open the door for much needed new housing opportunities.

**Additional thoughts: Why amend the IRC instead of the IBC?**

The IBC is designed to regulate large, sophisticated buildings and has numerous requirements with multiple overlapping layers of complexity in order to do so. The goal is to build plex structure housing projects simply and inexpensively. Its way easier to do that using the IRC than the IBC. IE, align the scale and complexity of the structure with and the complexity and scale of the code.

Would we rather use the IRC but add a few additional rules for plex structures, or use the IBC and remove a hundred?

Things we are trying to avoid in the IBC (why simplifying the IBC for plex structures is unlikely to be all that simple):

- Complex fire protection features (Ch.7) % opening limitations; fire wall continuity
- Complex exiting concepts: (chapter 10)
- Fire & life safety complexity: Fire alarm, central monitoring, annunciator panel, costs for communications, annual maintenance, testing.
- Upgraded water service mains, more expensive water meter required for high fire flow.
- Complex wall, roof, and floor assemblies
- Difficulty for small builders to execute.

**6. Specify what criteria this proposal meets. You may select more than one.**

- The amendment is needed to address a critical life/safety need.
- The amendment clarifies the intent or application of the code.
- The amendment is needed to address a specific state policy or statute.
- The amendment is needed for consistency with state or federal regulations.
- The amendment is needed to address a unique character of the state.
- The amendment corrects errors and omissions.

**7. Is there an economic impact:**  Yes  No

If no, state reason:

If yes, provide economic impact, costs and benefits as noted below in items a – f.

- a. **Life Cycle Cost.** Use the OFM Life Cycle Cost [Analysis tool](#) to estimate the life cycle cost of the proposal using one or more typical examples. Reference these [Instructions](#); use these [Inputs](#). Webinars on the tool can be found [Here](#) and [Here](#)). If the tool is used, submit a copy of the excel file with your proposal submission. If preferred, you may submit an alternate life cycle cost analysis.

*We estimate savings of \$500/year for maintenance and testing costs for each home by omitting the sprinkler and fire alarm systems.*

- b. **Construction Cost.** Provide your best estimate of the construction cost (or cost savings) of your code change proposal.

[Click here to enter text./square foot](#)

(For residential projects, also provide **\$25,000 - \$30,000 savings/ dwelling unit, possibly higher**)

Show calculations here, and list sources for costs/savings, or attach backup data pages

**By not requiring sprinkler systems we estimate a savings of \$15,000 per dwelling unit in initial construction costs for the system installation and a higher capacity water meter.**

**Keeping 3-6 unit projects within the IRC will also obviate the requirement for fire alarm, monitoring, and notification systems required for R-2 occupancies within the IBC. We estimate a savings of at least \$10,000 per unit.**

**There will also be a \$1,000-\$5,000 cost savings per dwelling unit on design and engineering fees.**

**For a significant number of projects, sprinkler systems can also trigger requirements for water main extensions and/or water pressure booster pumps. A booster pump can add an additional cost of \$10,000 per unit. A water main extension can add \$30,000-\$50,000 per unit. In these cases, we estimate the total savings per unit to be \$55,000 to \$80,000 per unit.**

- c. **Code Enforcement.** List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application: **There is the potential to decrease the amount of time spent in plan review for three to six unit structures as the separate plumbing, mechanical, electrical drawings would not be required, and sprinkler systems would not automatically be required.**
- d. **Small Business Impact.** Describe economic impacts to small businesses: The potential impact to small businesses is:  
**Homeowners, small developers, contractors and design firms will be able to more cost effectively deliver missing middle housing in less time. Beyond that, small businesses and other organizations that are adjacent to this new infill housing will benefit from new customers.**
- e. **Housing Affordability.** Describe economic impacts on housing affordability: **Decreasing the cost and complexity of delivering housing will increase its affordability over time.**
- f. **Other.** Describe other qualitative cost and benefits to owners, to occupants, to the public, to the environment, and to other stakeholders that have not yet been discussed:  
**This proposal is made with the intent to maintain life safety while decreasing the cost and complexity of delivering missing middle housing. Ultimately, this increases the variety and quality and flexibility of housing available to everyone—owners, occupants, the public, other stakeholders and the environment.**

**Examples: Homeowners can add units to their property using residential loan products. Homeowners with grandfathered in triplexes can alter their homes without triggering significant 13R sprinkler costs that may stop the project/ reduce the number of dwelling units/ cause the structure to be demolished.**

Please send your completed proposal to: [sbcc@des.wa.gov](mailto:sbcc@des.wa.gov)

**All questions must be answered to be considered complete. Incomplete proposals will not be accepted.**